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ABSTRACT

Perhaps the most significant challenge of the 1970's will be the effect the women's rights movement will have on the nation's established institutions and the extent to which the nation responds to the call of women for equal opportunities. Social pressures and expectations have been, until recently, such that women simply have not opted for jobs traditionally viewed as solely the male domain. According to a 1970 Bureau of Census tabulation, out of more than 250 distinct occupations, half of all women workers were employed in only 21 of these occupations, and approximately 25 percent of all employed women were in five occupations (secretary, elementary school teacher, bookkeeper, waitress, and household worker), which are relatively low-paying and dead-end jobs. Yet, statistics on women workers reveal that more women are working and that the need for technical training and employment opportunities for women will expand in keeping with the changing nature of the labor force. Due to stereotyped attitudes, many women fail to take advantage of the technical education opportunities available to them. A major effort is needed to direct women into non-stereotyped educational and employment opportunities. (Author/SB)

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WOMEN IN TECHNICAL EDUCATION

Speaking to a group of mostly men about women in technical education makes me feel a little like a hen in a small chicken coop with a pack of foxes running loose. Whether this hen escapes today remains to be seen!

Changing values and attitudes are the hallmark of the day. The never-ending Vietnam conflict, student unrest, people popping pills, conflict between hard hats and young adults, the civil rights movement among minorities, and now the women's rights movement test the nation's social conscience.

Perhaps the most significant national challenge of the 70's will be the effect the women's rights movement will have on the nation's established institutions and the extent to which the nation responds to the call of women for equal opportunities. Just as the civil rights movement of the minorities in the 60's called for equal educational and employment opportunities, the women's rights movement of the 70's is calling for similar opportunities.

Surpassing any time in history, women through individual initiative and organized groups, are looking at their role in

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Speech delivered by Dr. Mary L. Ellis, Director, Technical Education Research Center, Washington, D. C., at the National Technical Education Clinic, Oklahoma City, March 26, 1971.

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America's future development. Action groups such as the Women's Equity Action League (WEAL), Federally Employed Women (FEW), National Organization of Women (NOW), and the Female Liberation Movement, whose views, practices, and policies call for extreme change, are engaged in some measure in research and action programs directed toward greater options with respect to occupational choice and career advancement equal to their male counterparts.

Societal pressures and expectations have been, until recently, such that women simply have not opted for jobs traditionally viewed as solely the male domain. Career expectations are so subtly suggested and acquired that countless numbers of women rarely give serious consideration to preparing for occupations filled by a preponderance of males.

Sex discrimination with respect to initial employment and job advancement of women has been overtly and covertly practiced by both males and females. One leading educator even goes so far as to suggest that "sex prejudice is socially acceptable" in our society. In testifying before the Subcommittee on Constitutional Amendments of the U. S. Senate Judiciary Committee on May 6, 1970, Sandler stated:

> "Sex prejudice is so ingrained in our society that many who practice it are simply unaware that they are hurting women. It is the last socially acceptable prejudice. The Chairman of a (University)

> department sees nothing wrong in paying a woman less because 'she is married and therefore doesn't need as much,' or paying her less because 'she is not married and therefore doesn't need as much.'"

Tragically, the black woman suffers the greatest discrimination in today's society--one, because she is black; two because she is female. She is in fact, almost completely "disinherited by society" due to the accident of her birth. Narrow and rigid attitudes associated with race and sex discrimination are slowly but surely changing. The youth revolution, black revolution, and women's revolution manifest the need for continued examination of attitudes inherit in their root causes.

While these, and other problems and issues, will continue to confront the nation, it is our mission today to look at women in the world of work, particularly those in technical education. The picture, although bleak, holds some promise.

Workers Who are Women

According to a 1970 Bureau of Census tabulation, out of more than 250 distinct occupations reviewed in 1969, half of all women workers were employed in only 21 of these occupations. Approximately 25 percent of all employed women were in five occupations--secretary-stenographer, elementary school teacher, bookkeeper, waitress, and household worker--most relatively

low-paying and dead-end jobs. Male workers were widely dispersed in comparison to women--50 percent were in 65 occupations.

Let us look for a moment at the pattern of women in the labor force:

- Thirty-one million American women are gainfully employed, accounting for two out of every five workers
- It is estimated that women will be entering the labor force at the rate of one-half million a year during the decade of the 1970's
- The most startling increase in the labor force in the 1970's is expected among older women workers...the greatest population increase will be among women 45 and over
- The nation's highest unemployment rate is found in youthful Negro girls aged 16 and 17. This youthful group is confronted with an all-time high unemployment rate of 33.7 percent
- In early 1970, working women represented 42 percent of all women 16 years old and over in the population
- In mid 1970, women represented 11 percent of the country's science and engineering technicians
- Since 1960, married women have accounted for nearly half of the increase in the labor force
- In early 1970, over 18 million married women were working or looking for work, representing about 60 percent of the female labor force.
- Historically, Negro wives have had a higher labor force participation than white wives
- Full-time jobs are held by 75 percent of all working women
- Nine out of ten women will work sometime during their lifetime

. In March, 1969, 5.4 million of the 50.5 million families in the United States were headed by women--half were working or looking for work

It is apparent from the foregoing statistics that the need for technical training and employment opportunities for women will expand in keeping with the changing nature of the labor force.

According to an article by Hedges in the June, 1970, Monthly Labor Review:

> "The nation requires the labor that women can provide. But those requirements are becoming more and more specific. Needs are in individual occupations, not in the labor market. And those needs are dynamic, for at any one time some occupations are growing very rapidly, others are growing slowly, if at all, and some are declining numerically. These conditions require a labor force that is responsive to changing opportunities. The continued concentration of women in a narrow range of occupations runs counter to that concept."

Whether women will work from economic necessity or to supplement the family income, demands for education and employment will sharply increase in this decade. Providing such opportunities for five million women entrants in the labor force during the 70's is no small challenge.

Stereotyped Attitudes Restrict Options for Women and Men

A major problem with respect to women in technical education is the failure to opt for educational opportunities which are

available. For example, of the 4,435,132 females enrolled in federally supported vocational and technical education programs in fiscal year 1969, only .6% were enrolled in technical education. Stereotyped attitudes have no doubt contributed to outmoded notions that women should pursue only those occupations traditionally viewed as "appropriate for women."

Thousands of young women may yearn to enroll in such technology programs as drafting and design, water pollution control, electronics, plus numerous other technology programs. Societal pressures and rigid attitudes, however, cause them to seek out training opportunities which have traditionally been considered "appropriate for women," but for which they may have little aptitude or interest. Conversely, the same attitudes are operative among young men. Such attitudes continue to prevail in spite of the results of the 1958 aptitude study performed by the U. S. Department of Labor which negated erroneous assumptions of wide differences in the aptitudes of men and women. It was found, for example, that the particular combination of aptitudes (form and space perception, eye-hand coordination, finger and hand dexterity) required for technical and trade occupations are found as frequently among female as male students. It is interesting to note, for instance, that

aptitudes required for engineering are found in two-thirds as many women as men. In 1968, however, engineers in all fields totaled 1.1 million, of whom only about 8,000 or less than one percent were women.

Although the National Advisory Council on Vocational Education recently adopted the position that "girls need to be admitted to many industrial programs," no organized effort is yet underway to meet this objective.

Proportion of Women in Technical and Professional Occupations Shrinking

A major effort is needed to direct women into non-stereotyped educational and employment opportunities. According to the Women's Bureau, U. S. Department of Labor, women account for a smaller proportion of all technical and professional workers today than prior to World War II. This is in spite of the fact that the number of women in technical and professional occupations has nearly tripled since 1940. For example, women represented 37 percent of all technical and professional workers in 1969 as compared with 45 percent in 1940. In contrast, the proportion of women in the labor force rose from 26 to 37 percent over the same period of time.

Although some effort is being made to encourage women to opt for technical occupations, the proportion of women in these fields is shrinking while the proportion of women in less skilled and lower paid occupations is increasing.

Disparity Between Earnings of Men and Women

Salary differentials between men and women pose another real problem. Although federal laws require equal pay for equal work, the 1970 census revealed that a male with an eighth-grade education earned an average of $7,140 a year, while a female with the same education earned $3,970. The average for high school graduates was $9,100 and $5,280, and for college graduates, $13,320 and $7,930. Perhaps this is one reason so few women are enrolled in technical education programs.

Changing Expectations of Women

The life styles, roles, and expectations of women, as well as men, are shifting largely in response to technological achievements, economic considerations, and changing social values. Dynamic labor force requirements during the 70's appear to expand the probabilities of women working outside

the home and in a greater number of occupations.

Since it is now a clearly established fact that nine out of ten women work sometime during their lifetime, the need to develop expanded technical training and employment opportunities seems apparent. Projections by experts that half of the labor force will consist of women by 1980 amplify the challenge which lies ahead for technical educators.

Developing open attitudes with respect to education and employment opportunities for both men and women is imperative. Members of both sexes should be encouraged to seek educational and employment opportunities purely on the basis of interests, aptitudes, and abilities, without regard to traditional attitudes and outmoded stereotypes.

Underutilization of half the nation's peoplepower is an economic waste and potential social suicide. We should, and can, do better.

Emerging Technologies Hold Promise for Both Sexes

Newly emerging technologies such as electro-mechanical technology, bio-medical equipment technology, laser and electro-optical technology, nuclear medical technology, noise control and abatement technology, etc., offer promise for both men and

women. This is particularly true since most emerging fields have not been stereotyped as educational and employment opportunities "appropriate for men" and/or "appropriate for women."

Phenomenal Growth of Technical Education

Technical education programs expanded at the fantastic rate of nearly 20 percent per year during the 60's. Similar growth may be expected during the 70's. Hence, it appears imperative that administrators, supervisors, teacher educators, guidance counselors, teachers, business and industry advisory groups, and others in policy making and program positions be made aware of and understand issues and problems inherent in the full utilization of womanpower.

In light of changing social, economic, and political realities, it appears that technical education can meet the challenge to prepare both men and women to function effectively in the techtronic age of the 70's.

Today's meeting is one small step in that direction.

Thank you.